

**REMARKS**

This is a response to the Office Action mailed August 6, 2004. Claims 25-74 are pending in the application. Claims 25-42, 44, 45, 49, 51, 54, and 58-67 have been rejected by the Examiner. As noted above, applicants have amended Claims 25, 32, 33-49, 52, 53, 59-60, 63-67, 68-74. The amendments are fully supported by the written description. Claims 68-74 have been added and Claims 29, 30, 31, 55-57 have been deleted.

**Allowable Subject Matter****Claims 43, 46-48, 50, 53, 56, 57**

The Examiner has stated that Claims 43 and 46-48 are allowed. However, Claims 46-48 indirectly depend from rejected Claim 44. The Examiner indicated in a phone conversation on October 13, 2004 to treat Claims 46-48 as objected to as being dependent upon a rejected base claim and not as allowed claims as stated in the Office Action. The Examiner states that Claims 50, 53, 56, and 57 are objected to as being dependent upon a rejected base claim.

Claims 45 and 51 were listed as rejected on the Office Action Summary, however, no basis for a rejection was given in the Office Action. In the same conversation the Examiner indicated that in this Response to treat Claims 45 and 51 as objected to as being dependent upon a rejected base claim.

In addition, the Examiner stated in the Office Action that the prior art fails to teach or suggest processes having all of the features recited in Claim 44. The Examiner stated in the same conversation that this was an error.

Claim 68 has been added and includes all of the features of the base claim 44 and dependent Claim 45. Newly added Claims 69 and 70 depend from Claim 68 and include the features of Claims 46 and 47, respectively. Claim 71 has been added and includes all of the

features of the base claim 44 and dependent Claims 49 and 50. Claim 72 has been added and includes the all of the features of the base claim 44 and dependent Claims 49 and 53. Claim 73 has been added and includes the all of the features of the base Claim 44 and dependent claims 56 and 57.

### **Claim Rejections § 112**

#### **Claims 25-42, 64-67, and 30**

The Examiner has rejected Claims 25-42, 64, and 65 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicant has amended Claims 25, 54, and 65 by replacing the abbreviation “hvof” with “high velocity oxygen fuel,” as it is defined in the specification on page 11, line 12. Claims 66 and 67 were listed as rejected on the Office Action Summary, however, no basis for a rejection was given in the Office Action. Applicant has also amended Claims 66-67 by replacing the abbreviation “hvof” with “high velocity oxygen fuel.” Applicant respectfully requests removal of the indefiniteness rejection of Claims 25-42, 64-67.

Claim 30 has been deleted.

### **Claim Rejections § 102**

#### **Claims 25, 28-31, 44, 49, 52, 54-55, and 58-63**

The Examiner has rejected Claims 25, 28-31, 44, 49, 52, 54-55, and 58-63 under 35 U.S.C. § 102(e) as being unpatentable over Seitz (U.S. Patent No. 6,431,464). Applicant respectfully disagrees.

The Examiner states that Seitz teaches medical implants that are “coated via a thermal spraying processes (col. 1, lines 29-30) that includes the use of an arc.” The Examiner further

states that “the arc spraying of Seitz is deemed to be a cold process. Recall that applicant stated at page 11, lines 6-7 of the specification, that arc spraying is a cold process.”

Claim 25 recites: “thermally spray-forming material onto the medical device to form a coating where the type of thermal spray processing is selected from the group consisting of cold spray, combustion, high velocity oxygen fuel, and plasma.” Seitz does not teach or suggest the above-mentioned features recited in claim 25. In particular, Seitz does not teach or suggest cold spray thermal processing which is defined on page 10, lines 1-7 of the specification.

As indicated in the specification, several of the thermal processing methods when carried out correctly are called a “cold process” (See pages 10-12 of specification). These thermal processing methods include combustion wire thermal spray process (Specification, page 10, lines 8-16), combustion powder thermal spray process (Specification, page 10, lines 17-25), arc spray process (Specification, page 11, lines 3-11), and plasma spray process (Specification, page 11, line 28 to page 12, line 5).

The feature of Claim 25, cold spray thermal processing defined on page 10, lines 1-7 of the specification, is distinct from combustion wire thermal spray process, combustion thermal spray process, arc spray process, and plasma spray process, and the spray process disclosed in Seitz. In cold spray thermal processing, “generally powder particles are introduced into a high pressure gas where both the gas and particles enter a supersonic jet. (Specification, page 10, lines 1-3) Referring to combustion wire thermal spray process, combustion powder thermal spray process, arc spray process, or plasma spray process as a “cold process” merely qualifies such processes as being cold “relative to the substrate being coated.” (Specification, page 10, lines 13-14). Combustion wire thermal spray process, combustion powder thermal spray process, arc spray process, plasma spray process, and the spray process in Seitz do not involve

introducing powder particles into a high pressure gas where both the gas and particles enter a supersonic jet. Therefore, Seitz does not teach or suggest the feature of Claim 25 including “cold spray” “thermal spray processing.”

Consequently, Seitz does not teach or suggest the feature recited in Claim 25 “thermally spray-forming material onto the medical device to form a coating where the type of thermal spray processing is selected from the group consisting of cold spray, combustion, high velocity oxygen fuel, and plasma.” Therefore, Claim 25 is patentably allowable. Claims 28-31 depend from Claim 25 and are allowable for at least the same reason. Applicant respectfully requests removal of the rejection of Claims 25 and 28-31.

**Claims 44, 49, 52, 54-55, and 58-63**

Furthermore, Seitz does not teach or suggest the feature recited in Claim 44 “applying the coating material to the medical device using a thermal spray process, wherein the type of thermal spray process is selected from the group consisting of cold spray, combustion, high velocity oxygen fuel, and plasma.” Therefore, Claim 44 is patentably allowable. Claims 49 and 52 depend from Claim 44 and are allowable for at least the same reason. Applicant respectfully requests removal of the rejection of Claims 44, 49, and 52.

For the reasons discussed above, Seitz does not teach or suggest the feature recited in Claim 58 “using cold spray thermal processing to apply a variable thickness coating of the metal alloy onto the medical device.” Therefore, Claim 58 is patentably allowable. Claims 59 and 60 depend from Claim 58 and are allowable for at least the same reason. Applicant respectfully requests removal of the rejection of Claims 58-60.

For the reasons discussed above, Seitz does not teach or suggest the features recited in Claim 61 “using a cold spray process to apply a coating of the metal alloy onto the medical

device.” Additionally, Seitz does not teach or suggest the feature recited in claim 61 “the coating has an average grain size of less than thirty-two microns.” Therefore, Claim 61 is patentably allowable. Claims 62 and 63 depend from Claim 61 and are allowable for at least the same reason. Applicant respectfully requests removal of the rejection of Claims 61-63.

As indicated above Claims 54-57 have been deleted.

### **Claim Rejections § 103**

#### **Claims 26, 32, and 33**

The Examiner has rejected Claims 26, 32, and 33 under 35 U.S.C. § 103(a) as being unpatentable over Seitz. Applicant respectfully disagrees.

The Examiner indicates that Seitz “fails to teach varied thickness, the growth of grains or the claimed post coating processes.” To establish a prima facie case of obviousness of a claimed invention, **all of the claim limitations must be taught or suggested by the prior art.**

(emphasis added) *In Re Royka*, 490 F.2d 981, 180, USPQ 580 (CCPA 1974). **As correctly**

**indicated by the Examiner, Seitz does not teach or suggest the features of Claim 26**

**including** “the thickness of the coating is varied on the medical device;” **Claim 32 including**

“heat treating the coating formed from the thermal spray-forming of a metal material to grow the grain size of the coating;” and **Claim 33 including** “swaging the medical device after thermally

spray-forming material onto the medical device.” Furthermore, applicant submits that Claim 25

is nonobvious. If an independent claim is nonobvious under 35 U.S.C. 103, then any claim

depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

For these reasons, applicant requests removal of the obviousness rejection of Claims 26, 32, and 33.

CONCLUSION

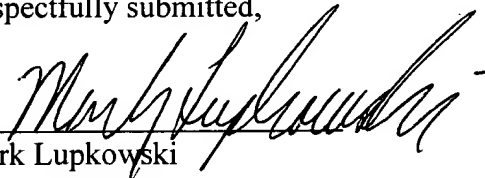
Claims 25-74 are pending in this application. Applicant respectfully submits that rejected Claims 25-42, 44, 45, 49, 51, 54, and 58-67 have been placed in condition for allowance. Applicant respectfully requests the Examiner to enter the foregoing amendments and pass the case to issue.

If the Examiner has any questions or concerns, the Examiner is invited to telephone the undersigned attorney at (415) 954-0297.

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